

**Accelerator Vacuum and Mechanical Engineering  
United States Particle Accelerator School  
June 2002**

**Table of Contents**

- 1. Vacuum Fundamentals**
- 2. Estimating Gasloads**
- 3. Vacuum System Design Calculations**
- 4. Mechanical Vacuum Pumps**
- 5. Ion Pumps**
- 6. Non-evaporable Getter Pumps**
- 7. Titanium Sublimation Pumps**
- 8. Cryosorption Pumps and Compressors**
- 9. Pressure Measuring Devices**
- 10. Materials, Fabrication Techniques, and Joint Design**
- 11. Leak Detection**
- 12. Vacuum Hardware**
- 13. Material Preparation, Cleaning, and Processing**
- 14. Supports and Alignment**